

1 CLAIM

1. An apparatus for producing a fine liquid mist, comprising a container (10) for holding a gas and liquid together under pressure, valve means (12) for releasing said gas and said liquid from said container (10); a nozzle (18), feed means (14) operatively connecting said nozzle and said container, and a mixing chamber (126) in the nozzle, said mixing chamber (126) having outlet orifices (132) for emission of said liquid mist, said outlet orifices (132) being at a discharge end of said mixing chamber (126),

characterized in that

said container having actuation means for simultaneously actuating first and second valve means, said actuation means comprising a single actuation lever for simultaneously opening and closing both of said valve means;

said valve means comprising a first valve (62) for controlling and regulating the flow of liquid from a container (10) to a first supply means (112) and a second valve (64) for controlling and regulating the flow of gas from said container (10) to a second supply means (110); wherein simultaneous release of said liquid and said gas is achieved when said single actuating lever (82) is displaced whereby movement of each of said first and second valves occurs, and wherein

said mixing chamber (126) includes two separate inlets at one end, a first inlet (125) for injection of said liquid radially into the mixing chamber and a second inlet (128) for injection of said gas axially into said mixing chamber (126) for atomization of said liquid.

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2. A release assembly for simultaneously releasing a gas and a liquid separately from a pressurized container containing said gas and liquid together and to permit feeding said liquid and said gas as individual, separate fluid streams from said container and to and through said valve, characterized in that :

the release assembly is a single actuating means (82) connected to a valve member including spaced apart first and second valves for simultaneously actuating said valves,

said first valve (62) for controlling and regulating the flow of liquid from a container (10) to a first supply means (112);

said second valve (64) for controlling and regulating the flow of gas from said container (10) to a second supply means (110) ; and  
whereby movement of said single actuating means effects simultaneous opening and closing of said valves to effect control and regulation of said simultaneous flow of said liquid and said gas from said valves.

3. A release valve according to claim 2, comprising an elongate valve member (60), and spaced apart valve seats (38, 42), said first valve (62) formed at one end of said valve member (60), said second valve (64) formed at a position intermediate the other end of said valve member (60) and said first valve (62), said means (82) for actuating said valves positioned at the other end of said valve member (60).

4. A release valve according to claim 3, further comprising an enlargement at

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said one end, movable axially to open and close an orifice.

5. A release valve according to claim 4, further comprising a reduced section at said intermediate position of said valve member 60, axially spaced inlets and outlets, said reduced section movable axially to a position connecting said inlet and outlet.
6. A release valve according to claim 5, comprising a valve body (30), said elongate member (60) positioned in a bore in said valve body (30), said orifice formed at one end of said bore, and means (26) for feeding said liquid from said orifice to an outlet in said bore.
7. A release valve according to claim 6, comprising means (70) for feeding gas through said body (30) to a port (76) in said bore and a chamber (46) in said body (30) at the other end of said bore, said reduced section movable to connect and disconnect said port (76) to said chamber (46) and means for feeding said gas from said chamber (46) to said outlet.
8. A release valve according to claim 7, including connection means (112) for connecting a feed means (14) to said outlet and feeding said liquid and said gas separately to said feed means (14).
9. A release valve according to claim 8, comprising means (70) for feeding gas through said body (30) to a port (76) in said bore and a transfer

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passage (46) in said body (30) at a position intermediate the ends of said bore, said reduced section movable to connect and disconnect said port (76) to said transfer passage (46) and means (114) for feeding said gas from said transfer passage (46) to said outlet.

10. A release valve according to claim 9, including connection means (112) for connecting a feed means (14) to said outlet and feeding said liquid and said gas separately to said feed means (14).

11. A liquid mist fire extinguisher, comprising a container (10) for holding a gas and a liquid together under pressure, a valve assembly (12) at an upper end of said container (10) for releasing said gas and said liquid from said container (10), a hose and a nozzle assembly (18) and a mixing chamber (126), characterized in that

the extinguisher has a single actuating means (82) for simultaneous release of said liquid and said gas by simultaneously actuating first and second valve means (62, 64), said actuating means controlling spaced apart first and second valves (62, 64); and

wherein said valve means (62, 64) simultaneously releases said gas and said liquid separately from said container (10), said first valve means (62) controlling and regulating the flow of liquid from a container (10) and said second valve (64) controlling and regulating the flow of gas from said container (10).

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12. A fire extinguisher as claimed in claim 11, including a gas conveying tube (110) within said hose (14) for feeding said gas.
13. A fire extinguisher as claimed in claim 12, said valve means (60) comprising a first valve (62) controlling a liquid outlet from said container (10), a second valve (64) controlling a gas outlet from said container (10), means (14) for feeding said liquid and said gas separately from said valves, and means (82) for actuating said valves simultaneously.
14. A fire extinguisher as claimed in claim 13, said first valve (62) formed at one end of said valve member (60), said second valve (64) formed at a position intermediate at the other end of said valve member (60) and said first valve (62), said means (82) for actuating the said valves simultaneously positioned at the other end of said valve member (60).
15. A fire extinguisher as claimed in claim 14, further comprising an enlargement at said one end, movable axially to open and close an orifice.
16. A fire extinguisher as claimed in claim 15, further comprising a reduced section at said intermediate position, axially spaced inlets and outlets, said reduced section movable axially to a position connecting said inlet and outlet.
17. A fire extinguisher as claimed in claim 16, comprising a valve body (30), an

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elongated member (60) positioned in a bore in said body (30), said orifice formed at one end of said bore, and means (26) for feeding said liquid from said orifice to an outlet in a said bore.

18. A fire extinguisher as claimed in claim 17, comprising means (70) of feeding gas through said body (30) to a port (76) in said bore and a chamber (46) in said body (30) at the outer end of said bore, said reduced section movable to connect and disconnect said port (76) to said chamber (46) and means (70) for feeding said gas from said chamber (46) to said outlet.
19. A fire extinguisher as claimed in claim 18, including connection means (112) for connecting a feed means (14) to said outlet and feeding said liquid and said gas separately to said feed means (14).
20. A fire extinguisher as claimed in claim 17, comprising means (70) of feeding gas through said body (30) to a port (76) in said bore and a transfer passage (46) in said body (30) at a position intermediate the ends of said bore, said reduced section movable to connect and disconnect said port (76) to said transfer passage (46) and means (114) for feeding said gas from said transfer passage (46) to said outlet.
21. A fire extinguisher as claimed in claim 20, including connection means (112) for connecting a feed means (14) to said outlet and feeding said liquid and said gas separately to said feed means (14).

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22. A fire extinguisher according to claim 11, wherein said nozzle assembly (18) includes an angled face (130) at one end.

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